M-31-01

INTERNATIONAL STANDARD 1080

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Machine tools — Morse taper shanks — Cotter slots with taper keys

Machines-outils — Emmanchements à cône Morse — Lumières pour fixation par clavette inclinée

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Descriptors : machine tools, boring machine tapers, slots, cotter pins, dimensions, keys and keyways.

Price based on 4 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 39 has reviewed ISO Recommendation R 1080 and found it technically suitable for transformation. International Standard ISO 1080 therefore replaces ISO Recommendation R 1080-1969 to which it is technically identical.

ISO Recommendation R 1080 was approved by the Member Bodies of the following countries :

Belgium	Hungary	Romania
Brazil	India	South Africa, Rep. of
Czechoslovakia	Israel	Spain
Egypt, Arab Rep. of	Italy	Sweden
France	Netherlands	Switzerland
Germany	Poland	Turkey

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

Japan*
United Kingdom*
U.S.A.
U.S.S.R.*

* Subsequently, these Member Bodies approved the Recommendation.

No Member Body disapproved the transformation of ISO/R 1080 into an International Standard.

Printed in Switzerland

Machine tools — Morse taper shanks — Cotter slots with taper keys

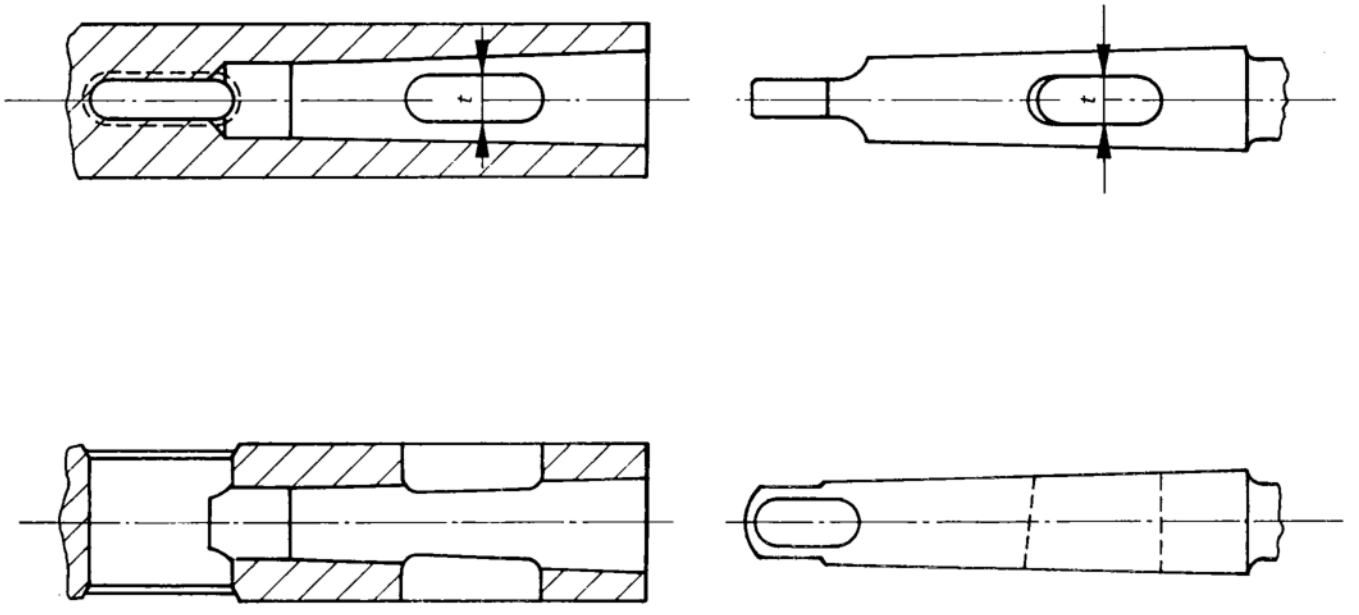
1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a dimensioning system, with numerical values of the dimensions in millimetres and inches, for cotter slots with 5 % taper keys for Morse tapers, outside and inside, and for reduction sleeves, intended for fixing tools on machine tools.

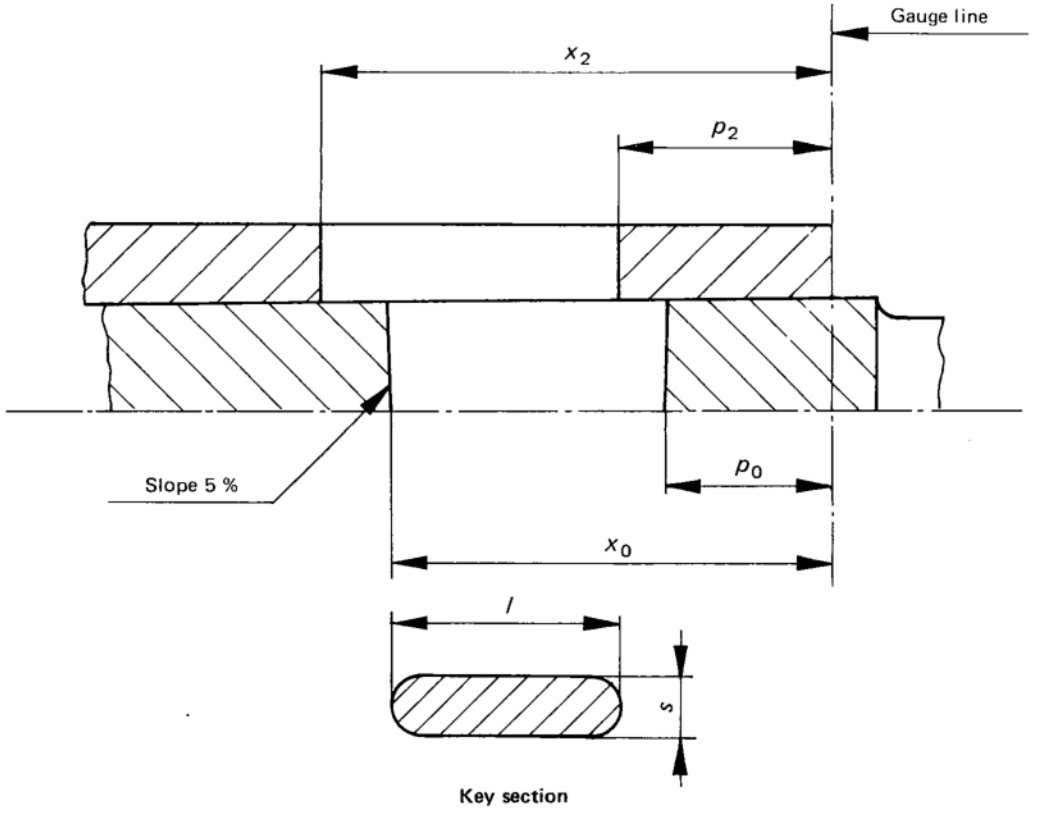
2 MORSE TAPERS, OUTSIDE AND INSIDE

2.1 Orientation of slots

The axial planes of symmetry of the cotter slot and of the sleeve or of its housing shall be identical.



2.2 Dimensioning



Key section

2.3 Numerical values of dimensions

TABLE 1 — **Dimensions in millimetres**

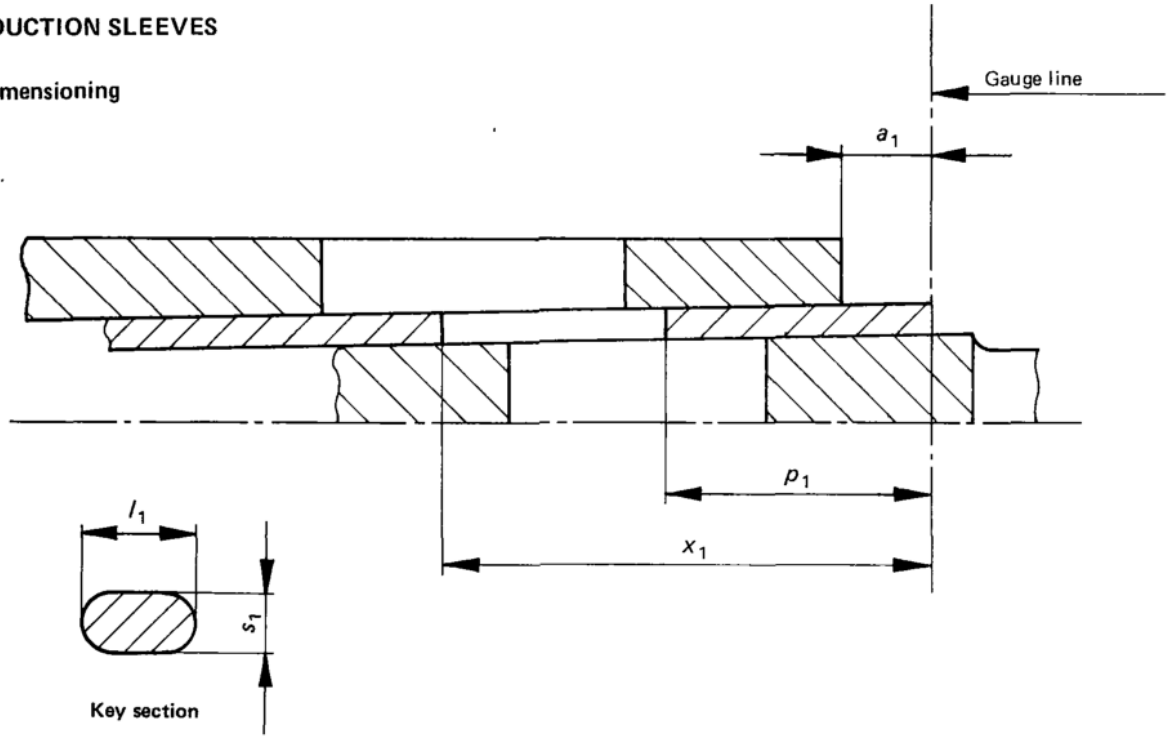
	Taper No. / Dimension	3	4	5	6
Outside taper	p_0	22	22	22	22
	x_0	55,5	58,5	63,5	57
Inside taper	p_2	28,5	28,5	28,5	28,5
	x_2	65	68	73	67
Key (taper 5 %)	l	27	30	35	28,5
	s	8	8	12,7	16
Key hole	t	8,3	8,3	13	16,3

TABLE 2 — **Dimensions in inches**

	Taper No. / Dimension	3	4	5	6
Outside taper	p_0	7/8	7/8	7/8	7/8
	x_0	2 3/16	2 5/16	2 1/2	2 1/4
Inside taper	p_2	1 1/8	1 1/8	1 1/8	1 1/8
	x_2	2 9/16	2 11/16	2 7/8	2 5/8
Key (taper 5 %)	l	1 1/16	1 3/16	1 3/8	1 1/8
	s	5/16	5/16	1/2	5/8
Key hole	t	0.325	0.325	0.512	0.640

3 REDUCTION SLEEVES

3.1 Dimensioning



3.2 Numerical values of dimensions

TABLE 3 – **Dimensions in millimetres**

	Dimension \ Taper No.	4/3	5/3	5/4	6/3	6/4	6/5
Socket	a_1*	12,5	6,5	12,5	8	8	8
	p_1	35	29	35	30	30	30
	x_1	65	65	68	65	68	73
Key (taper 5 %)	l_1	14,5	20,5	17,5	19	22	27
	s_1	8	8	8	8	8	12,7
Key hole	t_1	8,3	8,3	8,3	8,3	8,3	13

TABLE 4 – **Dimensions in inches**

	Dimension \ Taper No.	4/3	5/3	5/4	6/3	6/4	6/5
Socket	a_1*	1/2	1/4	1/2	5/16	5/16	5/16
	p_1	1 3/8	1 1/8	1 3/8	1 3/16	1 3/16	1 3/16
	x_1	2 9/16	2 9/16	2 11/16	2 9/16	2 11/16	2 7/8
Key (taper 5 %)	l_1	9/16	13/16	11/16	3/4	7/8	1 1/16
	s_1	5/16	5/16	5/16	5/16	5/16	1/2
Key hole	t_1	0.325	0.325	0.325	0.325	0.325	0.512

* The values of a_1 are identical with those of the sockets specified in ISO 238, *Reduction sleeves and extension sockets for tools with Morse taper shanks*, except for Nos. 4/3 and 5/4 (12,5 mm $= \frac{1}{2}$ in, instead of 22,5 mm $= \frac{7}{8}$ in and 21,5 mm $= \frac{27}{32}$ in, respectively).